

## **IN THE CLAIMS**

This listing of the claim will replace all prior versions and listings of claim in the present application.

### **Listing of Claims**

1. (currently amended) A method of production planning, implemented in a production planning system, in response to a request for production planning from a terminal operated by a user, for putting target values of at least one of a plurality of management indices related to production activity into a restriction condition thereby solving a linear programming problem, and calculating at least one of a production plan, a materials procurement plan, a marketing plan, and a transportation plan by a computer, calculating a plurality of management indices related with production activity that are used in production of products, said method comprising the steps of:
  - receiving inputs from the user that are made of a selection of at least one of the management indices as evaluation objects and the target values of the selected management indices with data of various constants, and putting the target values into a restriction condition as constant data;
  - putting variables that store respectively a positive estrangement value or negative estrangement value from the target values of the management indices selected as the evaluation objects into the restriction condition;
  - multiplying each of the variables that store respectively a positive estrangement value or a negative estrangement value by weighting coefficient corresponding to each of the management indices and flags for selecting whether an actual numerical value is optimized to be equal to, or greater or

less than the target value of the management indices, and composing an objective function for minimizing the sum total of each estrangement value;

~~making flows of storage into and delivery from a warehouse into models, by monitoring the storage of parts, semi-products and/or products, considered to be in the warehouse in the production activity of material supply production and/or transportation to a marketing point;~~

~~formulating processes from the monitored storage of parts until delivery of products to the marketing points into a linear programming problem, by combining the processes including, the storage, warehouse and delivery of each item;~~

~~inputting the data of various constants;~~

~~inputting the data relating to target values of at least inventory, profit, sales, cost, a rate of operation, fulfilling rate of demands from marketing point, cash which production activity produces, and an efficiency at which the production activity produces the cash, as management indices,~~

~~wherein data relating to the target values of the management indices are made of first flag for determining whether being set or not, the target value, the weighting on each of the management indices, and the second flag for appointing that the target value of the management indices is set to be equal to, greater or less than that, or maximal or minimal, with respect to a numerical value;~~

~~incorporating the target value, weighting on each of the management indices, and the second flag of each of the management indices that have the first flag for determining being set, in restriction condition;~~

solving a linear programming problem that optimizes the objective function;

calculating actual values of all the management indices for which an evaluation of trade-offs is necessary from optimal solutions of the linear programming problem, and showing the actual values calculated on a display of the terminal; ~~a feasible real value  $x$  so that estrangement between said target value of each of said management indices, calculated from an executable solution of said linear programming problem, comes to be minimal;~~ and

receiving inputs from the user that are made of the adjusted target values of management indices by the user to improve the calculated actual values of management indices that cannot be allowed, and putting the adjusted target values into the restriction condition for the update;

repeating the steps of solving a linear programming problem, and calculating actual values of all the management indices for which the evaluation of trade-offs is necessary and showing the actual values calculated on a display of the terminal; and

receiving inputs from the user of a judgment that all the calculated actual values of the management indices can be allowed, and outputting at least one plan in a production plan of the product, the material supply plan, the sales plan, and the transportation plan, according to the final optimal solutions of the linear programming problem

~~showing said real value  $x$  calculated on a display of the terminal as the calculated management indices used to produce the products according to the production planning.~~

2. (currently amended) The method of production planning, as is defined in the claim 1, wherein said management index is a combination of at least one or more of inventory, profit, sales, cost, a rate of operation, fulfilling rate of demands from marketing point, cash which production activity produces, and an efficiency at which the production activity produces the cash values of said management indices are displayed on said display of said terminal in a form of a radar chart or a rod graph.

3. (previously presented) The method of production planning, as is defined in the claim 1, wherein said management indices and the values of said management indices after the addition or the change thereof are displayed on said display of said terminal in a form of a radar chart or a rod graph.

4. (previously presented) A method of production planning, as is defined in the claim 1, wherein production amount and/or material supply amount and/or transportation amount is/are calculated out by repeating steps of:

setting said target value of each of said management index through an input means;

solving said linear programming problem in a calculation means;

displaying a result thereof on said display of said terminal, and again, changing said restriction condition stored in a memory means upon receipt of

change in said target value of each of said management index through said input means;

solving said linear programming problem, the restriction condition of which is changed, in said calculation means; and

displaying the result thereof on said display of said terminal.

5. (previously presented) A memory medium, storing program for executing said processes in the method of production planning, as defined in the claim 1.

Claim 6 (canceled).

7. (previously presented) A method of production planning, as defined in claim 1, wherein said linear programming problem is solved by adding at least one management index to said management index, or by changing at least one management index into another management index, or by changing at least one target value of said management index into another value, thereby calculating out values of the management indices after the addition or the change thereof.

8. (previously presented) A method of production planning, as defined in claim 1, wherein said values of said management index is displayed on said display of said terminal in a form of a radar chart or a rod graph.

9. (previously presented) A method of production planning, as defined in claim 1, wherein said management index and the value of said management index after the addition or the change thereof are displayed on said display of said terminal in a form of a radar chart or a rod graph.

10. (previously presented) A method of production planning, as defined in claim 1, wherein said target value of said management index and actual value of said management index are displayed on said display of said terminal in a form of a radar chart or a rod graph.

Claim 11 (canceled).